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ABSTRACT

This study describes the development of the Attitude Toward Grades (ATG) survey instrument, a brief internally consistent measure of college student attitude toward grades and reports on selected behavioral correlates of that attitude. An initial item pool of approximately 50 attitude statements was created and the Thurstone equal appearing interval technique (L. L. Thurstone and E. J. Chave, 1929) was applied using 48 judges to establish scalability. A nine-point scale was used to classify the statements on a continuum from unfavorable to favorable. Preliminary studies using the ATG were conducted to assess internal consistency, effect of social desirability, validity against semantic differential, and readability. Internal consistency was found to be .92. The ATG scores correlated +.12 with social desirability suggesting lack of influence of that response set on the scores. A ten-item seven-point bipolar adjective pair semantic differential scale was used with the stimulus concept of "grade" and correlated .91 with the ATG. The median item correlation was .70 and the Flesch-Kincaid readability index grade equivalent value was 7.2. No significant differences were found between males and females or undergraduate and graduate students. Validity was determined via a convenience sample of 53 students and showed statistically significant relationships with the ATG. Attitude toward grades was also found to be positively correlated with student time spent preparing for class and self-reported grade average. (JLS)

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CORRELATES OF COLLEGE STUDENTS' ATTITUDES TOWARD GRADES

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The assignment and receipt of grades are integral to the educational process. They serve to both document and motivate learning. Grades also represent a point of contention for many consumers and their meaning and methods of determination are not always clear. Pilcher (1994), for example, completed six case studies to investigate how grades were assigned by teachers and used by parents and students. Her study suggests that teachers assign grades based on achievement of course content, ability level of students, and effort applied in class. This finding is supported by Brookhart (1993). However, parents perceive grades to reflect their child's achievement level. On the other hand, the attitudes of the students involved in each of the six case studies varied. One student believed grades reflected effort more than ability of the student to master assignments. Another student believed grades represented how much a teacher liked a student and the amount of work a student completed. The investigator concluded that the value students place on grades depends on the internal and external rewards or punishments they receive for grades assigned to them. Teachers and parents both used reward and coercive power to try to control student outcome. It may be the case that the exertion of power resulted in students not valuing the learning process and concluded that grades are more harmful than beneficial

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Note: Researchers are hereby given permission and invited to use the attitude scale described in this article. Please share results with Dr. David A. Payne as intermediary, % Test Scoring and Reporting Services, 201 Fairfax Hall, University of Georgia, Athens, GA 30602.

to student learning. Another study of the meaning of grades to college students has been reported by Pollio, Humphreys, and Milton (1989). These researchers found that grades represented a social purpose and also the personal traits of individual students. The social purpose structure defined how students felt concerning the importance that grades had in higher education. Responses were measured on a five-point Likert scale with "1" meaning grades had no importance to a "5" meaning grades had a major importance to the student. Typical items asked students such questions as (A) if the grades provided rewards for outstanding performance or (B) if grades communicate to the student how much learning was achieved. Results from a 35-item questionnaire yielded a four factor solution of the social purposes of grades: Providing Information, Motivation, Standards, and Pleasing Parents. Finally, a 1970 study by Stallings and Leslie reported on a survey to assess student attitudes toward grades with an eleven-item questionnaire, nine of the eleven were measured on a five-point Likert scale ranging from Strongly Agree (5) to Strongly Disagree (1), and the remaining two items dealt with the issue of pass/fail grades. The survey was administered to students at three different universities--two in the midwest, and one in the east. Both graduate and undergraduate students were included in the survey. No difference was found between graduate or undergraduate students concerning their attitude towards grades; both groups viewed grades as favorable. Data in the remaining two items showed that while students viewed the grading process as favorable, they would have preferred to have been rated on a pass/fail system. Undergraduate and graduate students both revealed that they felt their education would have been broader if the pressure to receive high grades had been eliminated.

The research on grades has tended to focus on the meaning of grades and attitudes toward them rather than relevant behavioral correlates. The present study reports on (a) the development of a brief highly internally consistent measure of college student attitude toward grades and (b) selected behavioral correlates of that attitude.

METHODOLOGY

Creation of Item Pool and Initial Scaling

An initial item pool of approximately 50 attitude statements was created based on personal experience of the authors and ideas from the existing literature. Guidelines for item phrasing and development were taken from Edwards (1957). Editing for duplication and redundancy yielded a final set of 25 statements. To establish the scalability of the domain "attitude toward grades" the Thurstone equal appearing interval technique was applied using 48 judges (Thurstone & Chave, 1929). A nine-point scale was used to classify the statements on a continuum from unfavorable to favorable. Resulting median scale values ranged from 3.0 to 8.0 and indices of item classification agreement ranged from 2.5 to 5. Interjudge agreement was .94. The domain using the Attitude Toward Grade (ATG) instrument was determined to be scalable. Because of the ease of administration, a Likert format was selected for the operational form of the ATG using a five-point response scale; 5 = Strongly Agree to 1 = Strongly Disagree. Editing and examination of a variety of data, e.g. item total correlations, item correlations with a measure of social desirability response set, resulted in a reduction from 25 to 15 items. A copy of the scale can be found in Table 1.

TABLE 1. Attitude Toward Grades Survey (n = 53)

Item		M	S	r*
1.	Grades are important for learning.	3.21	1.01	.70
2.	Grades have a positive influence on how students study.	3.68	.87	.46
3.	Grades have a positive influence on what students learn.	2.98	.97	.64
4.	Grades are good.	3.25	1.00	.76
5.	Grades are bad. (R)	3.43	1.05	.66
6.	Grades are important to me.	4.00	.83	.57
7.	Grades accurately reflect what I learn.	2.89	1.01	.63
8.	Grades don't reflect effort. (R)	2.98	1.13	.57
9.	Grade-point averages are not meaningful. (R)	3.30	.95	.81
10.	Good grades are worth the effort.	3.77	.95	.55
11.	Grades reflect student achievement.	3.28	1.00	.63
12.	Grades do not reflect knowledge. (R)	2.58	1.01	.57
13.	I don't like to be graded. (R)	3.25	1.14	.64
14.	I learn more when I know I will be graded.	3.21	1.06	.57
15.	Grades are a waste of time. (R)	3.58	1.13	.71
TOTAL		49.40	10.23	

Note: Response scale 5 = Strongly Agree, 4 = Agree, etc.
* Item total correlation corrected for overlap.
(R) Reversed score item.

Refinement and Development of Final Form

Preliminary studies using the ATG were conducted to assess (a) internal consistency (Cronbach, 1951), (b) effect of social desirability (Hays, Hayashi, & Stewart, 1989), validity against the semantic differential method of measuring attitude (Osgood, Suci, & Tannenbaum, 1957), and readability level. Sample sizes for these studies ranged from 29 to 47. Internal consistency was found to be .93. The ATG scores correlated +.12 with social desirability suggesting lack of influence of that response set on the scores. A ten-item seven-point bi-polar adjective pair semantic differential scale (e.g. important-unimportant, meaningful-meaningless, valuable-worthless) was used with the stimulus concept of *Grade* (Internal consistency = .92). It correlated .91 with ATG. The median item correlation was .70. The Flesch-Kincaid readability index revealed a grade equivalent value of 7.2. No significant differences were found between (a) males and females, (b) undergraduate and graduate students.

Determining Behavioral Correlates

Validity evidence was gathered by administering the ATG to a convenience sample of undergraduate students from a variety of locations across campus. A 17-item questionnaire inquiring into a variety of factors related to college attendance, activities, and study habits was administered to a sample of 53 students together with the ATG. Table 2 contains a summary of the questions and response categories. Two additional open-ended questions were: "How many hours on average did you study per week last quarter?" and "What is your overall GPA?"

TABLE 2. Results of One Way Analysis of Variance of ATG Scores by Survey Question

Item	Content	Response Options	*F*	*df*	*p*
2	Why did you decide to attend college?	Get Better Job, Make More Money, Get an Education, and Other	3.94	(3,49)	0.01
3	About when did you decide you wanted to attend college?	Elementary, Middle, High School, or Post High School	0.69	(3,49)	0.56
4	What is the highest level of education reached by your mother?	No High School, High School, Some College, College, Graduate School	0.33	(4,48)	0.85
5	What is the highest level of education reached by your father?		0.50	(4,47)	0.74
6	As a student, how would you rank yourself?	Below Average, Average, or Above Average	1.64	(2,50)	0.20
7	Have you dropped a class because it didn't look like you would get a good grade?	Yes or No	0.85	(1,51)	0.36
8	After taking a test, do you discuss it with other students?	Never, Sometimes, Usually, or Always	0.27	(3,48)	0.85
9	Do you leave questions blank on a test when you don't know the answer?	Yes or No	5.53	(1,51)	0.02
10	Are you satisfied with your grades at UGA?	Yes or No	9.76	(1,51)	0.00
11	If you had a choice would you choose classes graded using Pass/Fail or Letter grades?	Pass/Fail or Letter	16.27	(1,51)	0.00
12	Are you prepared for classes (e.g., read materials before class, review notes, have assignments completed and ready to hand in, etc.?)	Never, Sometimes, Usually, or Always	5.35	(3,48)	0.00
13	Do you have trouble managing your time?	Yes or No	5.83	(1,51)	0.02
14	Do you ask questions of an instructor about grades or grading?	Yes or No	1.11	(3,49)	0.36
15	Do you complete extra credit projects and assignments if they are an option?	Never, Sometimes, Usually, or Always	1.80	(3,49)	0.16
17	How do you feel about grades?	Very Negative, Negative, Neutral, Positive, Very Positive	2.46	(4,48)	0.06

RESULTS AND DISCUSSION

Nine of the 17 questionnaire items yielded statistically significant results. Questionnaire items 2, 9, 10, 11, 12, 13, and 17 (See Table 2) showed statistically significant relationships with the ATG. In addition attitude toward grades was found to be moderately positively related to the extent to which students prepare for class ($r = .50$, $p < .001$) and self-reported grade point average ($r = .33$, $p < .02$).

There were no surprises as factors one would expect to be related to a positive attitude toward grades. Grades are definitely seen as a means to an end. As expected, students who studied more hours, had higher grade point averages, and reported having better feelings toward grades responded more positively on the ATG. Students who were satisfied with their grades also reported more positively on the ATG than their peers who were not satisfied with their grades. Students also differed on their attitude toward grades with regard to their reasons for studying in college with those whose reason to attend college was making money responded significantly more negatively ($M = 36.00$) on the ATG than those who desired to obtain a better job in the future ($M = 51.69$). It is well known that being able to manage ones study time is positively related to achievement, apparently it is also positively related to attitude toward grades.

A not surprising secondary finding was that the endorsement of grades was higher for a sample of 17 faculty members (70%) than for students (64%).

Now that a reliable and modestly valid measure of college student attitude toward grades is available future research might focus on any number of important topics. What is the relationship of attitude toward grades and (a) cheating, (b) grading system, (c) amount

of education, (d) parent attitudes, and (e) self-concept. And finally, it would be interesting, particularly in academic assistance units, to see the effect if any, of counseling interventions or tutorial efforts on attitude toward grades.

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